

# Allyson Park

parkallyson@gmail.com | 951.553.0809

## WORK EXPERIENCE

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### Fullstack Software Developer at HP Inc

2022-Present

- Works in agile team to develop user signup flows, monitor deployments, and maintain database for HP Instant Ink, a global subscription service with 12M+ customers
- FE development with Typescript, Javascript, CSS, HTML languages and React
- BE development with Ruby on Rails
- Code deployment monitoring with Jenkins, Azure, and Splunk. Created new Splunk dashboards for team usage.
- Quickly gained expertise and confidence to represent the team as POC when engaging with other development, design, and business teams located across the globe.
- Led initiative to add support for PayPal in a webview application context, utilizing PayPal's SOAP API. Caught UX/data integrity gaps in initial proposal and coordinated multiple teams to architect a better design.
- Leads and uplifts team through action, e.g. presenting a "Tech Talk" on debugging, organizing bonding events, etc

### Instructor/Lecturer for UC Berkeley's CS61BL

2021

- Delivered lectures on data structures and algorithms to a class of over 400 students.
- Made executive decisions in the course structure, curriculum, and grading scheme.
- Hired and managed a staff of 35 TAs and tutors, and almost 100 interns.
- Wrote exams and redesigned existing coding assignments.
- Designed new roles and systems to better utilize staff hours and improve student experience, with strong positive feedback. Departmental surveys showed overall reviews of the course 7% higher than dept. average.

### Head of Infrastructure for UC Berkeley's CS61BL

Summer 2021

- Solely ran the infrastructure backing a large undergraduate class.
- Managed a database of 710 users (students, staff members, and interns) using our in-house system, Beacon. This application, built using Python and HTML, was the sole interface for students and staff to manage grades, extensions, and partnerships.
- Wrote autograders to grade students coding assignments.
- Learned and revamped a system with 97k lines of code with almost no guidance

### Graduate Student Instructor for UC Berkeley's CS61B

2020-2022

- Taught discussion sections, lab sections, and held office hours.
- Revamped and rewrote homework assignments. Involved writing autograders, creating introductory videos, and managing logistics with release and grading.
- Created instructional videos with extremely positive response and reach beyond just UC Berkeley students
- Created worksheets and instructional plans used by all TAs to teach students in discussion sections. Involved writing new problems and developing slideshows.
- Received positive student evaluations, with overall effectiveness rated 7% higher than the departmental avg for TAs.

## RESEARCH EXPERIENCE

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### Summer Intern for IBM Research

2020

- Developed an autofocus mechanism for digital reconstruction of holographic microscope images
- Researched and developed quantitative measures of focus for holographic images
- Utilized supervised ML to track and classify plankton in videos collected from a digital holographic microscope

### Undergraduate Researcher at UCSF Bondy-Denomy Lab

2019-2020

- Full time researcher for Summer 2019; part time during the academic year.
- Discovered and characterized 4 novel anti-CRISPR proteins
- Performed genomic analysis to predict immune/anti-immune activity, conduct de novo assembly of microbial genomes, and draw evolutionary theories.
- Conducted genetic engineering and manipulation on bacteria and bacteriophages.

## Volunteer Laboratory Assistant at UCSF Bondy-Denomy Lab

Spring 2019

- Studying CRISPR / Cas9 systems in tandem with anti-CRISPR systems.
- Testing various potential anti-CRISPR genes using molecular biology techniques.
- Learning/utilizing basic bioinformatics.

## EDUCATION

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### University of California, Berkeley's College of Engineering

2018-2022

- B.S. in Electrical Engineering & Computer Science
- Studied bioengineering until Spring 2020
- Cumulative GPA 3.96, Computer science coursework GPA 4.0

## PAPERS AND PRESENTATIONS

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Thomas Zimmerman, **Allyson Park**, and Simone Bianco "Evaluating autofocusing metrics for Plankton holographic microscope image reconstruction", Proc. SPIE 11710, Practical Holography XXXV: Displays, Materials, and Applications, 117100A (5 March 2021); <https://doi.org/10.1117/12.2582798>

Gussow AB, **Park AE**, Borges AL, Shmakov SA, Makarova KS, Wolf YI, Bondy-Denomy J, Koonin EV. "Novel anti-CRISPR protein families predicted with a machine-learning approach.: Nat. Comms. In press (2020).

Leon LM, **Park AE**, Borges AL, Zhang JY, Bondy-Denomy J. "Mobile Element warfare via CRISPR and anti-CRISPR in *Pseudomonas aeruginosa*." *bioRxiv*. (2020). doi: <https://doi.org/10.1101/2020.06.15.151498>

**Park AE**, Leon LM, Borges AL, Zhang JY, Bondy-Denomy J. "Discovery and Characterization of Dual Function CRISPR-Cas Inhibitors." Poster presented at the Summer Research Training Program Student Research Symposium at the University of California, San Francisco. July 2019.

**Park AE**, Leon LM, Borges AL, Zhang JY, Bondy-Denomy J. "Double Trouble: Discovery of Dual Function CRISPR-Cas Inhibitors." Poster presented at the 20th Annual Microbiology Student Symposium at the University of California, Berkeley. April 2019.

## AWARDS AND HONORS

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Outstanding Graduate Student Instructor Award 2022

## PROFESSIONAL SKILLS/TOOLS

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**Languages:** Ruby, Javascript/Typescript, CSS, HTML, Java, SQL, Python, C, Swift, RISC-V and x86.

**Frameworks/Libraries/Tools:** React, redux, Rails, Splunk, Postman, openCV, Jenkins, Azure, RESTful APIs, JUnit, RSpec, jest, Docker

Web development, webview-based application development for multiple platforms, and iOS native development. Focus on accessibility and UX best practices.

Test-driven development, unit testing, integration testing, and step-through debugging tools

University coursework in computer security, operating systems, AI and machine learning, database management